

CAPPING LAYER WITH HIGH COMPRESSIVE STRESS FOR SPIN VALVE SENSORS

ABSTRACT OF THE DISCLOSURE

[0030] A capping layer employed with a spin valve sensor includes a first capping layer, formed from a refractory metal, and a second capping layer formed from silicon. The interface between the refractory metal layer and the silicon layer form a silicide that provides a large compressive stress on the underlying spin valve sensor. The compressive stress, advantageously, increases the pinning field in the self-pinned pinned layer structure, while providing a high resistivity so that less sense current is shunted by the capping layer structure compared to an all metal capping layer structure that provides a comparable compressive stress.